



CONTAINS NO CBI

Climate Control Division  
Ford Motor Company

Sheldon Road Plant  
14425 Sheldon Road  
Plymouth, Michigan 48170  
September 11, 1989

Document Processing Center  
Office of Toxic Substances, TS-790  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460



000611726N

90-890000636

Attention: Comprehensive Assessment Information Rule (CAIR)  
Reporting Office

Subject: CAIR Report Submittal

Attached is the Ford Sheldon Road Plant CAIR Report submitted pursuant to EPA regulation 40 CFR 704. We voluntarily submit this report in good faith, notwithstanding our belief that we do not fall under the CAIR definition of "processor" that requires us to submit this report. CAIR defines "processing activities" in the preamble of the regulations (53 FR 51700) to include:

- use of a listed substance after its manufacture to make another substance for sale or use
- repackaging of a listed substance
- purchasing and preparing a listed substance for use or distribution in commerce.

None of the activities for which we are reporting are covered by this definition, as we are an "end user" in which a listed substance (toluene diisocyanate, TDI) is used "on-site in its end-use capacity" in the manufacture of an article that no longer contains the listed substance.

Please contact Mr. T.L. Jeppesen, Industrial Relations Manager, at (313) 451-8804 if additional assistance is required.

Very truly yours,

*B.T. Hogarth for P.D. Pietila*

P.D. Pietila  
Plant Manager

SEP 11 1989  
89 09 11 15 06

Attachment  
CAIR/r1g

## SECTION 1 GENERAL MANUFACTURER, IMPORTER, AND PROCESSOR INFORMATION

## PART A GENERAL REPORTING INFORMATION

1.01 This Comprehensive Assessment Information Rule (CAIR) Reporting Form has been

CBI completed in response to the Federal Register Notice of..... 06 14 819  
mo. day year☐ a. If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal Register, list the CAS No. .... 126471-62-5b. If a chemical substance CAS No. is not provided in the Federal Register, list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the Federal Register.(i) Chemical name as listed in the rule ..... NA(ii) Name of mixture as listed in the rule .... NA(iii) Trade name as listed in the rule ..... NAc. If a chemical category is provided in the Federal Register, report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.Name of category as listed in the rule ..... NACAS No. of chemical substance ..... NAName of chemical substance ..... NA

1.02 Identify your reporting status under CAIR by circling the appropriate response(s).

CBI Manufacturer ..... 1

☐ Importer ..... 2Processor ..... 3 \*

X/P manufacturer reporting for customer who is a processor ..... 4

X/P processor reporting for customer who is a processor ..... 5

\* None of the activities we are reporting are covered by this definition, as we are an "End user" in which a listed substance (TDI), is used "on-site in its end use capacity" in the manufacture of an article that no longer contains the listed substance.

☐ Mark (X) this box if you attach a continuation sheet.

3  
pages 1 + 2 intentionally deleted (not required)

1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?

CBI

Yes ..... ☒ Go to question 1.04

☐

No ..... ☐ Go to question 1.05

1.04 a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.

CBI

Yes ..... 1

☐

No ..... 2

b. Check the appropriate box below:

☐ You have chosen to notify your customers of their reporting obligations

Provide the trade name(s) ....

NA

☐ You have chosen to report for your customers

☐ You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI

Trade name ..... ISOFOAM F-0538-A \*

☐

Is the trade name product a mixture? Circle the appropriate response.

Yes ..... 1

No ..... \* We have not been notified of reporting requirements by our supplier... 2

ISOFOAM F-0538-A is a prepolymer containing TDI.

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI

☐ "I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

P.D. Pietila

NAME

*P.D. Pietila*  
SIGNATURE

9/11/89  
DATE SIGNED

Plant Manager

TITLE

( 313 ) 451 - 9213

TELEPHONE NO.

☐ Mark (X) this box if you attach a continuation sheet.

**CBI**

[ ]

1.08 CBI Certification -- If you have asserted any CBI claims in this report you must certify that the following statements truthfully and accurately apply to all of those confidentiality claims which you have asserted.

"My company has taken measures to protect the confidentiality of the information, and it will continue to take these measures; the information is not, and has not been, reasonably ascertainable by other persons (other than government bodies) by using legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding) without my company's consent; the information is not publicly available elsewhere; and disclosure of the information would cause substantial harm to my company's competitive position."

☐ Mark (X) this box if you attach a continuation sheet.

### 1.09 Facility Identification

### 1.10 Company Headquarters Identification

☐ Mark (X) this box if you attach a continuation sheet.

### 1.11 Parent Company Identification

CBI Name F I O R I O M O T I O R

[illegible]

Street

[DEARBORN]

City

[M]I [4]8[1]2[1]--[ ][ ][ ][ ]

State

Zip

Dun &amp; Bradstreet Number .....[0][0]-[1][3]4-[4]746]

### 1.12 Technical Contact

CBI Name [R][O][W]-[G][A][M][B][L][E] [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

[ ] Title [E]N[V]I[R]O[N]M[E]N[T]I[A]L [E]N[G]R. [ ] [ ] [ ] [ ] [ ] [ ]

Address 1442515HELOONR

Street

[P][L][Y][M][O][U][T][H]

City

[MI] [4]8[1]7[0]--[ ] [ ] [ ] [ ]

State

Zip

Telephone Number .....(213) 31-4151-192741

1.13 This reporting year is from ..... [ 0 ] [ 1 ] [ 8 ] [ 8 ] to [ 0 ] [ 1 ] [ 8 ] [ 9 ]  
Mo. Year Mo. Year

Mo.

Year

Mo.

Year

☐ Mark (X) this box if you attach a continuation sheet.

CBI    Name of Seller [N][A] \_ \_ \_ \_ \_  
[ ]   Mailing Address     [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_]  

Street

[\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_] [\_]

City

[\_] [\_]      [\_] [\_] [\_] [\_] --[\_] [\_] [\_]

State

Zip

Date of Sale ..... ( ) ( ) ( ) ( )  
Mo. Day Year

Telephone Number .....( ) ( ) ( ) -( ) ( ) ( ) -( ) ( ) ( ) ( )

CBI      Name of Buyer    [A][A] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
[ ]      Mailing Address     [ ]  

Street

[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

City

[ ] [ ]          [ ] [ ] [ ] [ ] [ ] -- [ ] [ ] [ ] [ ]

State                               Zip

Date of Purchase ..... ( ) ( ) ( ) ( )  
Mo. Day Year

Telephone Number .....( ) ( ) ( ) - ( ) ( ) ( ) - ( ) ( ) ( ) ( )

8

1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year.

CBI

☐

Classification

Quantity (kg/yr)

Manufactured ..... N.A.

Imported ..... N.A.

Processed (include quantity repackaged) ..... 15500

Of that quantity manufactured or imported, report that quantity:

In storage at the beginning of the reporting year ..... N.A.

For on-site use or processing ..... N.A.

For direct commercial distribution (including export) ..... N.A.

In storage at the end of the reporting year ..... N.A.

Of that quantity processed, report that quantity:

In storage at the beginning of the reporting year ..... 3500

Processed as a reactant (chemical producer) ..... 15500

Processed as a formulation component (mixture producer) ..... NA

Processed as an article component (article producer) ..... NA

Repackaged (including export) ..... NA

In storage at the end of the reporting year ..... 3500

☐ Mark (X) this box if you attach a continuation sheet.



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**PART C IDENTIFICATION OF MIXTURES**

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- 1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

☐

Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)
NA		
		Total 100%

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☐ Mark (X) this box if you attach a continuation sheet.

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2.04 State the quantity of the listed substance that your facility manufactured, imported, or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

☐ Year ending ..... 112 88  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... 15,400 kg

Year ending ..... 112 87  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... 25,300 kg

Year ending ..... 112 86  
Mo. Year

Quantity manufactured ..... NA kg

Quantity imported ..... ↓ kg

Quantity processed ..... ↓ kg

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types.

CBI

☐ Continuous process ..... 1

Semicontinuous process ..... 2

Batch process ..... 3

NA

☐ Mark (X) this box if you attach a continuation sheet.

2.06 Specify the manner in which you processed the listed substance. Circle all appropriate process types.

☐

Continuous process ..... 1

Semicontinuous process ..... ②

Batch process ..... 3

2.07 State your facility's name-plate capacity for manufacturing or processing the listed substance. (If you are a batch manufacturer or batch processor, do not answer this question.)

CBI

☐

Manufacturing capacity ..... NA kg/yr

Processing capacity ..... 40,000 kg/yr

2.08 If you intend to increase or decrease the quantity of the listed substance manufactured, imported, or processed at any time after your current corporate fiscal year, estimate the increase or decrease based upon the reporting year's production volume.

CBI

☐

	Manufacturing Quantity (kg)	Importing Quantity (kg)	Processing Quantity (kg)
Amount of increase	<u>NA</u>	<u>NA</u>	<u>NA</u>
Amount of decrease	<u>↓</u>	<u>↓</u>	<u>↓</u>

☐ Mark (X) this box if you attach a continuation sheet.

- 2.09 For the three largest volume manufacturing or processing process types involving the listed substance, specify the number of days you manufactured or processed the listed substance during the reporting year. Also specify the average number of hours per day each process type was operated. (If only one or two operations are involved, list those.)

CBI

☐

Days/Year      Average  
Hours/Day

Process Type #1 (The process type involving the largest quantity of the listed substance.)

Manufactured .....	<u>NA</u>	<u>NA</u>
Processed .....	<u>300</u>	<u>20</u>

Process Type #2 (The process type involving the 2nd largest quantity of the listed substance.)

Manufactured .....	<u>NA</u>	_____
Processed .....	<u>↓</u>	_____

Process Type #3 (The process type involving the 3rd largest quantity of the listed substance.)

Manufactured .....	<u>NA</u>	_____
Processed .....	<u>↓</u>	_____

- 2.10 State the maximum daily inventory and average monthly inventory of the listed substance that was stored on-site during the reporting year in the form of a bulk chemical.

CBI

☐ NA

Maximum daily inventory ..... kg

Average monthly inventory ..... kg

☐ Mark (X) this box if you attach a continuation sheet.

- 2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

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<u>CAS No.</u>	<u>Chemical Name</u>	<u>Byproduct, Coproduct or Impurity<sup>1</sup></u>	<u>Concentration (%) (specify <math>\pm</math> % precision)</u>	<u>Source of By-products, Coproducts, or Impurities</u>
UK				

<sup>1</sup>Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct  
C = Coproduct  
I = Impurity

☐ Mark (X) this box if you attach a continuation sheet.

- 2.12 Existing Product Types -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to ☐ the instructions for further explanation and an example.)

a.	b.	c.	d.
Product Types <sup>1</sup>	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users <sup>2</sup>
B	100%	100%	I

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

<sup>2</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

- 2.13 Expected Product Types -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

☐

a.	b.	c.	d.
Product Types <sup>1</sup>	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users <sup>2</sup>
B	100%	100%	I

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

<sup>2</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

2.14 Final Product -- Complete the following table for each type of final product manufactured, imported, or processed at your facility that contains the listed substance other than as an impurity.

☐

a.	b.	c.	d.
Product Type <sup>1</sup>	Final Product's Physical Form <sup>2</sup>	Average % Composition of Listed Substance in Final Product	Type of End-Users <sup>3</sup>
NA			

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

<sup>2</sup>Use the following codes to designate the final product's physical form:

A = Gas	F2 = Crystalline solid
B = Liquid	F3 = Granules
C = Aqueous solution	F4 = Other solid
D = Paste	G = Gel
E = Slurry	H = Other (specify) _____
F1 = Powder	

<sup>3</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.



2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the  
CBI listed substance to off-site customers.

- ☐ Truck ..... 1
- NA ☐ Railcar ..... 2
- Barge, Vessel ..... 3
- Pipeline ..... 4
- Plane ..... 5
- Other (specify) \_\_\_\_\_ 6

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customers  
or prepared by your customers during the reporting year for use under each category  
CBI of end use listed (i-iv).

- ☐ NA  
Category of End Use
- i. Industrial Products
- Chemical or mixture ..... kg/yr
- Article ..... kg/yr
- ii. Commercial Products
- Chemical or mixture ..... kg/yr
- Article ..... kg/yr
- iii. Consumer Products
- Chemical or mixture ..... kg/yr
- Article ..... kg/yr
- iv. Other
- Distribution (excluding export) ..... kg/yr
- Export ..... kg/yr
- Quantity of substance consumed as reactant ..... kg/yr
- Unknown customer uses ..... kg/yr

☐ Mark (X) this box if you attach a continuation sheet.

### SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

#### PART A GENERAL DATA

- 3.01 Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.  
CBI The average price is the market value of the product that was traded for the listed substance.

☐

<u>Source of Supply</u>	<u>Quantity (kg)</u>	<u>Average Price (\$/kg)</u>
The listed substance was manufactured on-site.	<u>NA</u>	<u></u>
The listed substance was transferred from a different company site.	<u>NA</u>	<u></u>
The listed substance was purchased directly from a manufacturer or importer.	<u>30900*</u>	<u>\$1.32/kg</u>
The listed substance was purchased from a distributor or repackager.	<u>NA</u>	<u></u>
The listed substance was purchased from a mixture producer.	<u>NA</u>	<u></u>

\* includes prepolymer

- 3.02 Circle all applicable modes of transportation used to deliver the listed substance to your facility.

CBI

☐

- |                       |   |
|-----------------------|---|
| Truck .....           | 1 |
| Railcar .....         | 2 |
| Barge, Vessel .....   | 3 |
| Pipeline .....        | 4 |
| Plane .....           | 5 |
| Other (specify) _____ | 6 |

☐ Mark (X) this box if you attach a continuation sheet.

3.03 a. Circle all applicable containers used to transport the listed substance to your  
CBI facility.

☐

Bags ..... 1  
Boxes ..... 2  
Free standing tank cylinders ..... 3  
Tank rail cars ..... 4  
Hopper cars ..... 5  
Tank trucks ..... 6  
Hopper trucks ..... 7  
Drums ..... (8)  
Pipeline ..... 9  
Other (specify) ..... 10

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.

Tank cylinders ..... NA. mmHg  
Tank rail cars ..... mmHg  
Tank trucks ..... mmHg

☐ Mark (X) this box if you attach a continuation sheet.

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PART B RAW MATERIAL IN THE FORM OF A MIXTURE

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3.04 If you obtain the listed substance in the form of a mixture, list the trade name(s) of the mixture, the name of its supplier(s) or manufacturer(s), an estimate of the average percent composition by weight of the listed substance in the mixture, and the amount of mixture processed during the reporting year.

☐

<u>Trade Name</u>	<u>Supplier or Manufacturer</u>	<u>Average % Composition by Weight (specify <math>\pm</math> % precision)</u>	<u>Amount Processed (kg/yr)</u>
NA			

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☐ Mark (X) this box if you attach a continuation sheet.

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PART C RAW MATERIAL VOLUME

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3.05 State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

☐

	Quantity Used (kg/yr)	% Composition by Weight of Listed Sub- stance in Raw Material (specify $\pm$ % precision)
Class I chemical	<u>30900</u>	<u>50 % <math>\pm</math> 10%</u>
	<u>                    </u>	<u>                    </u>
	<u>                    </u>	<u>                    </u>
Class II chemical	<u>NA</u>	<u>                    </u>
	<u>                    </u>	<u>                    </u>
	<u>                    </u>	<u>                    </u>
Polymer	<u>NA</u>	<u>                    </u>
	<u>                    </u>	<u>                    </u>
	<u>                    </u>	<u>                    </u>

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☐ Mark (X) this box if you attach a continuation sheet.

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SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

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General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

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PART A PHYSICAL/CHEMICAL DATA SUMMARY

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- 4.01 Specify the percent purity for the three major<sup>1</sup> technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

☒ CBI

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	<u>Manufacture</u>	<u>Import</u>	<u>Process</u>
Technical grade #1	<u>NA</u> % purity	<u>NA</u> % purity	<u>50</u> % purity
Technical grade #2	_____ % purity	_____ % purity	_____ % purity
Technical grade #3	_____ % purity	_____ % purity	_____ % purity

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<sup>1</sup>Major = Greatest quantity of listed substance manufactured, imported or processed.

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- 4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

Yes ..... ①

No ..... 2

Indicate whether the MSDS was developed by your company or by a different source.

Your company ..... ①

Another source ..... 2

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☒ Mark (X) this box if you attach a continuation sheet.

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4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response. *N.A.*

Yes ..... 1  
No ..... 2

4.04 For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI  
☐

Activity	Physical State				
	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	1	2	3	4	5
Import	1	2	3	4	5
Process	1	2	③	4	5
Store	①	2	3	4	5
Dispose	①	2	3	4	5
Transport	①	2	3	4	5

☐ Mark (X) this box if you attach a continuation sheet.

- 4.05 Particle Size -- If the listed substance exists in particulate form during any of the following activities, indicate for each applicable physical state the size and the percentage distribution of the listed substance by activity. Do not include particles  $\geq 10$  microns in diameter. Measure the physical state and particle sizes for importing and processing activities at the time you import or begin to process the listed substance. Measure the physical state and particle sizes for manufacturing storage, disposal and transport activities using the final state of the product.

CBI

☐

Physical State		Manufacture	Import	Process	Store	Dispose	Transport
Dust	<1 micron	NA					NA
	1 to <5 microns						
	5 to <10 microns						
Powder	<1 micron						
	1 to <5 microns						
	5 to <10 microns						
Fiber	<1 micron						
	1 to <5 microns						
	5 to <10 microns						
Aerosol	<1 micron						
	1 to <5 microns						
	5 to <10 microns	↓					↓

☐ Mark (X) this box if you attach a continuation sheet.



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SECTION 5 ENVIRONMENTAL FATE

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PART A RATE CONSTANTS AND TRANSFORMATION PRODUCTS

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5.01 Indicate the rate constants for the following transformation processes.

a. Photolysis:

Absorption spectrum coefficient (peak) .... UK (1/M cm) at \_\_\_\_\_ nm

Reaction quantum yield,  $\phi$  ..... UK at \_\_\_\_\_ nm

Direct photolysis rate constant,  $k_p$ , at ... UK 1/hr \_\_\_\_\_ latitude

b. Oxidation constants at 25°C:

For  $^1O_2$  (singlet oxygen),  $k_{ox}$  ..... UK 1/M hr

For  $RO_2$  (peroxy radical),  $k_{ox}$  ..... UK 1/M hr

c. Five-day biochemical oxygen demand,  $BOD_5$  ... UK mg/l

d. Biotransformation rate constant:

For bacterial transformation in water,  $k_b$ ... UK 1/hr

Specify culture ..... UK

e. Hydrolysis rate constants:

For base-promoted process,  $k_b$  ..... UK 1/M hr

For acid-promoted process,  $k_a$  ..... UK 1/M hr

For neutral process,  $k_n$  ..... UK 1/hr

f. Chemical reduction rate (specify conditions) UK

g. Other (such as spontaneous degradation) ... Reacts in presence  
of water evolving  $CO_2$

---

☐ Mark (X) this box if you attach a continuation sheet.

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PART B PARTITION COEFFICIENTS

5.02 a. Specify the half-life of the listed substance in the following media.

<u>Media</u>	<u>Half-life (specify units)</u>
Groundwater	<u>NA.</u>
Atmosphere	<u>NA</u>
Surface water	<u>NA</u>
Soil	<u>NA</u>

b. Identify the listed substance's known transformation products that have a half-life greater than 24 hours.

<u>CAS No.</u>	<u>Name</u>	<u>Half-life (specify units)</u>	<u>Media</u>
<u>NA</u>			in
			in
			in
			in

5.03 Specify the octanol-water partition coefficient,  $K_{ow}$  ... NA at 25°C

Method of calculation or determination .....

5.04 Specify the soil-water partition coefficient,  $K_d$  ..... NA at 25°C

Soil type .....

5.05 Specify the organic carbon-water partition coefficient,  $K_{oc}$  ..... NA at 25°C

5.06 Specify the Henry's Law Constant,  $H$  ..... NA atm-m<sup>3</sup>/mole

☐ Mark (X) this box if you attach a continuation sheet.

- 5.07 List the bioconcentration factor (BCF) of the listed substance, the species for which it was determined, and the type of test used in deriving the BCF.

<u>Bioconcentration Factor</u>	<u>Species</u>	<u>Test</u> <sup>1</sup>
<u>NA</u>		

<sup>1</sup>Use the following codes to designate the type of test:

F = Flowthrough  
S = Static

☐ Mark (X) this box if you attach a continuation sheet.

~~6.04~~ For each market listed below, state the quantity sold and the total sales value of the listed substance sold or transferred in bulk during the reporting year.

☐

<u>Market</u>	<u>Quantity Sold or Transferred (kg/yr)</u>	<u>Total Sales Value (\$/yr)</u>
Retail sales	NA	
Distribution -- Wholesalers		
Distribution -- Retailers		
Intra-company transfer		
Repackagers		
Mixture producers		
Article producers		
Other chemical manufacturers or processors		
Exporters		
Other (specify)		

6.05 Substitutes -- List all known commercially feasible substitutes that you know exist for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to use in your current operation, and which results in a final product with comparable performance in its end uses.

CBI

☐

<u>Substitute</u>	<u>Cost (\$/kg)</u>
NO KNOWN SUBSTITUTE AVAILABLE	—

☐ Mark (X) this box if you attach a continuation sheet.

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SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

---

General Instructions:

For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

---

PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

---

7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

CBI

☐ Process type ..... POLYURETHANE FOAM IN PLACE

\* SEE ATTACHED FLOW DIAGRAM

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☒ Mark (X) this box if you attach a continuation sheet.

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7.03 In accordance with the instructions, provide a process block flow diagram showing all process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

CBI

☐ Process type ..... Polyurethane Foam-In-Place

SEE attached sheet

---

☒ Mark (X) this box if you attach a continuation sheet.

---

7.04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... POLYURETHANE FOAM-IN-PLACE

Unit Operation ID Number	Typical Equipment Type	Operating Temperature Range (°C)	Operating Pressure Range (mm Hg)	Vessel Composition
<u>7.0</u>	<u>PNEUMATIC PUMP</u>	<u>AMBIENT</u>	<u>40 PSI</u>	<u>N/A</u>
<u>7.7</u>	<u>MIXING HEAD</u>	<u>N/A</u>	<u>UK</u>	<u>N/A</u>
<u>7.1</u>	<u>PROCESS PUMP</u>	<u>N/A</u>	<u>UK</u>	<u>N/A</u>
<u>7.2</u>	<u>PROCESS PUMP</u>	<u>N/A</u>	<u>UK</u>	<u>N/A</u>
<u>7.3</u>	<u>AIR MONITOR</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
<u>7.4</u>	<u>PROCESS TANK</u>	<u>N/A</u>	<u>25-30 PSI</u>	<u>STEEL</u>
<u>7.5</u>	<u>PROCESS TANK</u>	<u>21°C</u>	<u>5 PSI</u>	<u>STEEL</u>
<u>7.6</u>	<u>PROCESS TANK</u>	<u>27°C</u>	<u>5 PSI</u>	<u>STEEL</u>
<u>7.8</u>	<u>OVEN</u>	<u>57°-60°C</u>	<u>N/A</u>	<u>N/A</u>

☐ Mark (X) this box if you attach a continuation sheet.

7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... POLYURETHANE FOAM

Process Stream ID Code	Process Stream Description	Physical State <sup>1</sup>	Stream * Flow (kg/yr)
<u>7AA</u>	<u>MOLD RELEASE</u>	<u>OL</u>	<u>31,000 kg/yr</u>
<u>7A</u>	<u>ISO FOAM - A -</u>	<u>OL</u>	<u>33,000 kg/yr</u>
<u>7C</u>	<u>POLYOL RESIN - B -</u>	<u>OL</u>	<u>56,000 kg/yr</u>
<u>7B</u>	<u>NITROGEN</u>	<u>GU</u>	<u>1125 ft<sup>3</sup></u>
<u>7D</u>	<u>SOLVENT PURGE</u>	<u>OL</u>	<u>2,000 kg/yr</u>
<u>7L</u>	<u>Polyurethane Foam</u>	<u>SO</u>	<u>180 000 kg/yr</u>
<u>* BASED ON PRODUCTION VOLUME IN 1988</u>			

<sup>1</sup>Use the following codes to designate the physical state for each process stream:

GC = Gas (condensable at ambient temperature and pressure)  
 GU = Gas (uncondensable at ambient temperature and pressure)  
 SO = Solid  
 SY = Sludge or slurry  
 AL = Aqueous liquid  
 OL = Organic liquid  
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

☐ Mark (X) this box if you attach a continuation sheet.



7.06 Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

☐ Process type ..... POLYURETHANE FOAM

a. Process Stream ID Code	b. Known Compounds	c. Concen- trations (% or ppm)	d. Other Expected Compounds	e. Estimated Concentrations (% or ppm)
<u>7AA</u>	<u>TRICHLOROETHANE</u>	<u>80-90%</u>	<u>1,4 DIOXANE</u>	<u>2.5%</u>
	<u>SOLVENT NAPHTHA LIGHT ALIPHATIC</u>	<u>1-20%</u>	<u>N/A</u>	
	<u>WAX BLEND</u>	<u>1-10%</u>	<u>N/A</u>	
<u>7A</u>	<u>TDI</u>	<u>50%</u>	<u>N/A</u>	
<u>7C</u>	<u>POLYETHER POLYOL</u>	<u>90-95%</u>	<u>N/A</u>	
	<u>AMINE CATALYST</u>	<u>1-2%</u>	<u>N/A</u>	
	<u>WATER</u>	<u>3-4%</u>	<u>N/A</u>	
	<u>Carbon Black</u>	<u>1-2%</u>	<u>N/A</u>	

7.06 continued below

<u>7B</u>	<u>NITROGEN</u>	<u>100%</u>	<u>N/A</u>
<u>7D</u>	<u>METHYLENE CHLORIDE</u>	<u>70% max</u>	<u>N/A</u>
	<u>ETHYL ALCOHOL</u>	<u>30% max</u>	<u>N/A</u>
	<u>Trichloroethylene</u>	<u>10%</u>	<u>N/A</u>

☐ Mark (X) this box if you attach a continuation sheet.

7.06 (continued)

<sup>1</sup>For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
1	NA	
2		
3		
4		
5		

<sup>2</sup>Use the following codes to designate how the concentration was determined:

A = Analytical result  
E = Engineering judgement/calculation

<sup>3</sup>Use the following codes to designate how the concentration was measured:

V = Volume  
W = Weight

☐ Mark (X) this box if you attach a continuation sheet.

---

PART A RESIDUAL TREATMENT PROCESS DESCRIPTION

---

8.01 In accordance with the instructions, provide a residual treatment block flow diagram which describes the treatment process used for residuals identified in question 7.01.

CBI

☐ Process type ..... polyurethane FOAM-IN-PLACE

---

SEE ATTACHED SHEET

---

☒ Mark (X) this box if you attach a continuation sheet.

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# PART B RESIDUAL GENERATION AND CHARACTERIZATION

8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI ☐ Process type ..... Polyurethane Foam-In-Place

a.	b.	c.	d.	e.	f.	g.
Stream ID Code	Type of Hazardous Waste <sup>1</sup>	Physical State of Residual <sup>2</sup>	Known Compounds <sup>3</sup>	Concentrations (% or ppm) <sup>4,5,6</sup>	Other Expected Compounds	Estimated Concentrations (% or ppm)
<u>7AC</u>	<u>T</u>	<u>GU</u>	<u>Trichloroethane</u>	<u>(EW) 900PPM</u>	<u>NONE</u>	<u>NA</u>
		<u>GU</u>	<u>Naphtha</u>	<u>(EW) 30PPM</u>		
<u>7R</u>	<u>T</u>	<u>GU</u>	<u>CH<sub>2</sub>Cl<sub>2</sub></u>	<u>(EW) 70PPM</u>	<u>TDI (1V)</u>	<u>Not Detectable</u>
		<u>GU</u>	<u>Ethyl Alcohol</u>	<u>(EW) 30PPM</u>		
		<u>GU</u>	<u>Trichloroethylene</u>	<u>(EW) 1PPM</u>		
<u>8C</u>	<u>NA</u>	<u>SO</u>	<u>Polymerized</u>	<u>100%</u>	<u>NONE</u>	<u>NA</u>
		<u>GU</u>	<u>CO<sub>2</sub></u>	<u>UK</u>		
<u>7E</u>	<u>T</u>	<u>OL</u>	<u>CH<sub>2</sub>Cl<sub>2</sub></u>	<u>*60-70%</u>	<u>URETHANE</u>	<u>UK</u>
			<u>Ethyl Alcohol</u>	<u>20-30%</u>		
			<u>Trichloroethylene</u>	<u>5-15%</u>		
			<u>Methyl Alcohol</u>	<u>0-5%</u>		
				<u>*(EW)</u>		

8.05 continued below

☒ Mark (X) this box if you attach a continuation sheet.

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8.05 (continued)

<sup>1</sup>Use the following codes to designate the type of hazardous waste:

I = Ignitable  
C = Corrosive  
R = Reactive  
E = EP toxic  
T = Toxic  
H = Acutely hazardous

<sup>2</sup>Use the following codes to designate the physical state of the residual:

GC = Gas (condensable at ambient temperature and pressure)  
GU = Gas (uncondensable at ambient temperature and pressure)  
SO = Solid  
SY = Sludge or slurry  
AL = Aqueous liquid  
OL = Organic liquid  
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

-----  
8.05 continued below

---

☐ Mark (X) this box if you attach a continuation sheet.

---

8.05 (continued)

<sup>3</sup>For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column d. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
1	NA	
2		
3		
4		
5		

<sup>4</sup>Use the following codes to designate how the concentration was determined:

- A = Analytical result
- E = Engineering judgement/calculation

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.

---

8.05 (continued)

<sup>5</sup>Use the following codes to designate how the concentration was measured:

V = Volume

W = Weight

<sup>6</sup>Specify the analytical test methods used and their detection limits in the table below. Assign a code to each test method used and list those codes in column e.

<u>Code</u>	<u>Method</u>	<u>Detection Limit</u> <u>(± ug/l)</u>
<u>1</u>	<u>MDI 7100 Diisocyanate Monitor</u>	<u>1 PPB</u>
<u>2</u>	<u></u>	<u></u>
<u>3</u>	<u></u>	<u></u>
<u>4</u>	<u></u>	<u></u>
<u>5</u>	<u></u>	<u></u>
<u>6</u>	<u></u>	<u></u>

---

☐ Mark (X) this box if you attach a continuation sheet.

---

8.06 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

CBI

☐ Process type ..... Polyurethane Foam-IN-PLACE

a.	b.	c.	d.	e.	f.	g.
Stream ID Code	Waste Description Code <sup>1</sup>	Management Method Code <sup>2</sup>	Residual Quantities (kg/yr)	Management of Residual (%) On-Site Off-Site	Costs for Off-Site Management (per kg)	Changes in Management Methods
<u>7AC</u>	<u>B91</u>	<u>MSa</u>	<u>53000</u>	<u>100%</u>	<u>UK</u>	<u>NONE</u>
<u>7R</u>	<u>B91</u>	<u>MSa</u>	<u>4800</u>	<u>100%</u>	<u>UK</u>	<u>NONE</u>
<u>8C</u>	<u>NA</u>	<u>SS</u>	<u>0.1</u>	<u>100%</u>	<u>NA</u>	<u>NONE</u>
<u>7S</u>	<u>NA</u>	<u>ID</u>	<u>6800</u>	<u>100%</u>	<u>UK</u>	<u>NONE</u>

<sup>1</sup>Use the codes provided in Exhibit 8-1 to designate the waste descriptions

<sup>2</sup>Use the codes provided in Exhibit 8-2 to designate the management methods

☒ Mark (X) this box if you attach a continuation sheet.



8.22 Describe the combustion chamber design parameters for each of the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Incinerator	Combustion Chamber Temperature (°C)		Location of Temperature Monitor		Residence Time In Combustion Chamber (seconds)	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
1	NA					
2						
3						

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

8.23 Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Incinerator	Air Pollution Control Device <sup>1</sup>	Types of Emissions Data Available
1	NA	
2	NA	
3	NA	

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

<sup>1</sup>Use the following codes to designate the air pollution control device:

S = Scrubber (include type of scrubber in parenthesis)

E = Electrostatic precipitator

O = Other (specify) \_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

**PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE**

9.01 Mark (X) the appropriate column to indicate whether your company maintains records on the following data elements for hourly and salaried workers. Specify for each data element the year in which you began maintaining records and the number of years the records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

CBI

☐

Data Element	Data are Maintained for:		Year in Which Data Collection Began	Number of Years Records Are Maintained
	Hourly Workers	Salaried Workers		
Date of hire	x	x	1967 <u>c/</u>	e
Age at hire	x	x	1967 <u>c/</u>	e
Work history of individual before employment at your facility	x <u>a/</u>	x <u>a/</u>	1967 <u>c/</u>	e
Sex	x	x	1967 <u>c/</u>	e
Race	x	x	1967 <u>c/</u>	e
Job titles	x	x	1967 <u>c/</u>	e
Start date for each job title	x	x	1967 <u>c/</u>	e
End date for each job title	x	x	1967 <u>c/</u>	e
Work area industrial hygiene monitoring data	x	x	1978	Indefinite
Personal employee monitoring data	x	x	1978	<u>d/</u>
Employee medical history	x	x	1967 <u>c/</u>	<u>d/</u>
Employee smoking history	x <u>b/</u>	x <u>b/</u>	1967 <u>c/</u>	<u>d/</u>
Accident history	x	x	1967 <u>c/</u>	5
Retirement date	x	x	1967 <u>c/</u>	e
Termination date	x	x	1967 <u>c/</u>	e
Vital status of retirees	x	x	1967 <u>c/</u>	e
Cause of death data	x	x	1967 <u>c/</u>	e

☒ Mark (X) this box if you attach a continuation sheet.

9.02 In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

☐

a.	b.	c.	d.	e.
<u>Activity</u>	<u>Process Category</u>	<u>Yearly Quantity (kg)</u>	<u>Total Workers</u>	<u>Total Worker-Hours</u>
Manufacture of the listed substance	Enclosed	<u>NA</u>	<u>      </u>	<u>      </u>
	Controlled Release	<u>NA</u>	<u>      </u>	<u>      </u>
	Open	<u>NA</u>	<u>      </u>	<u>      </u>
On-site use as reactant	Enclosed	<u>30900</u>	<u>3</u>	<u>600</u>
	Controlled Release	<u>NA</u>	<u>      </u>	<u>      </u>
	Open	<u>NA</u>	<u>      </u>	<u>      </u>
On-site use as nonreactant	Enclosed	<u>NA</u>	<u>      </u>	<u>      </u>
	Controlled Release	<u>NA</u>	<u>      </u>	<u>      </u>
	Open	<u>NA</u>	<u>      </u>	<u>      </u>
On-site preparation of products	Enclosed	<u>NA</u>	<u>      </u>	<u>      </u>
	Controlled Release	<u>NA</u>	<u>      </u>	<u>      </u>
	Open	<u>NA</u>	<u>      </u>	<u>      </u>

☐ Mark (X) this box if you attach a continuation sheet.

9.03 Provide a descriptive job title for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance.

CBI

☐

Labor Category

Descriptive Job Title

A

Supervisor

B

Foam Molding Attendent

C

Foaming Equipment Set-up

D

E

F

G

H

I

J

☐ Mark (X) this box if you attach a continuation sheet.

---

9.04 In accordance with the instructions, provide your process block flow diagram(s) and indicate associated work areas.

CBI

☐ Process type ..... Polyurethane Foam-In-Place

See attached sheet

---

☒ Mark (X) this box if you attach a continuation sheet.

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9.05 Describe the various work area(s) shown in question 9.04 that encompass workers who may potentially come in contact with or be exposed to the listed substance. Add any additional areas not shown in the process block flow diagram in question 7.01 or 7.02. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... Polyurethane Foam- In-Place

Work Area ID

Description of Work Areas and Worker Activities

1	"Foam-In-Place": Employees place small metal
2	doors in fixtures prior to foam molding
3	operation and then remove them following
4	the operation. Maintenance functions also
5	provided by these personnel.
6	
7	
8	
9	
10	

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Polyurethane Foam-IN-PLACE

Work area ..... #1 (Foam-In-Place)

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance <sup>1</sup>	Average Length of Exposure Per Day <sup>2</sup>	Number of Days per Year Exposed
A	2	Inhalation	GU	F <u>a</u> /	220 <u>a</u> /
B	14	Inhalation	GU	F <u>a</u> /	220 <u>a</u> /
C	3	Direct Skin Contact/ <u>Inhalation</u>	GU/OL	B/F <u>a</u> /	220 <u>a</u> /

<sup>1</sup>Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)  
 GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)  
 SO = Solid

SY = Sludge or slurry  
 AL = Aqueous liquid  
 OL = Organic liquid  
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

<sup>2</sup>Use the following codes to designate average length of exposure per day:

A = 15 minutes or less  
 B = Greater than 15 minutes, but not exceeding 1 hour  
 C = Greater than one hour, but not exceeding 2 hours

D = Greater than 2 hours, but not exceeding 4 hours  
 E = Greater than 4 hours, but not exceeding 8 hours  
 F = Greater than 8 hours

☒ Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Polyurethane Foam-IN-PLACE

Work area ..... #1

Labor Category	8-hour TWA Exposure Level (ppm, mg/m <sup>3</sup> , other-specify)	15-Minute Peak Exposure Level (ppm, mg/m <sup>3</sup> , other-specify)
A	<u>Non-detectable</u> *	<u>Non-detectable</u>
B	<u>11</u>	<u>11</u>
C	<u>11</u>	<u>11</u>

\* Detection sensitivity = 1 PPB

☐ Mark (X) this box if you attach a continuation sheet.



**PART B WORK PLACE MONITORING PROGRAM**

9.08 If you monitor worker exposure to the listed substance, complete the following table.

CBI

☐

<u>Sample/Test</u>	<u>Work Area ID</u>	<u>Testing Frequency (per year)</u>	<u>Number of Samples (per test)</u>	<u>Who Samples<sup>1</sup></u>	<u>Analyzed In-House (Y/N)</u>	<u>Number of Years Records Maintained</u>
Personal breathing zone	N/A	N/A	N/A	N/A	N/A	N/A
General work area (air)	#1	Continuous	N/A	D a/	Y a/	Indefinite
Wipe samples	N/A	N/A	N/A	N/A	N/A	N/A
Adhesive patches	N/A	N/A	N/A	N/A	N/A	N/A
Blood samples	N/A	N/A	N/A	N/A	N/A	N/A
Urine samples	N/A	N/A	N/A	N/A	N/A	N/A
Respiratory samples	N/A	Once	One	D b/	Y	Same
Allergy tests	N/A	N/A	N/A	N/A	N/A	N/A
Other (specify)						
Other (specify)						
Other (specify)						

<sup>1</sup>Use the following codes to designate who takes the monitoring samples:

A = Plant industrial hygienist

B = Insurance carrier

C = OSHA consultant

D = Other (specify) Foam Equip. Set-up Person

☒ Mark (X) this box if you attach a continuation sheet.

9.09 For each sample type identified in question 9.08, describe the type of sampling and analytical methodology used for each type of sample.

Sample Type	Sampling and Analytical Methodology
General Work Area	"Chemical Cassette" detection system with micro processor analysis
Respiratory	MDA 7100 Isocyanate Gas detector Respiratory Spirometer Test ← type of test

9.10 If you conduct personal and/or ambient air monitoring for the listed substance, specify the following information for each equipment type used.

CBI

Equipment Type <sup>1</sup>	Detection Limit <sup>2</sup>	Manufacturer	Averaging Time (hr)	Model Number
E	0.001 A	MDA Scientific	½ hr.	7100

<sup>1</sup> Use the following codes to designate personal air monitoring equipment types:

- A = Passive dosimeter
- B = Detector tube
- C = Charcoal filtration tube with pump
- D = Other (specify) \_\_\_\_\_

Use the following codes to designate ambient air monitoring equipment types:

- E = Stationary monitors located within work area
- F = Stationary monitors located within facility
- G = Stationary monitors located at plant boundary
- H = Mobile monitoring equipment (specify) \_\_\_\_\_
- I = Other (specify) \_\_\_\_\_

<sup>2</sup> Use the following codes to designate detection limit units:

- A = ppm
- B = Fibers/cubic centimeter (f/cc)
- C = Micrograms/cubic meter (µ/m<sup>3</sup>)

☐ Mark (X) this box if you attach a continuation sheet.

9.11 If you conduct routine medical tests for monitoring the health effects of exposure to the listed substance, specify the type and frequency of the tests.

CBI

<input type="checkbox"/>	<u>Test Description</u>	<u>Frequency</u> <u>(weekly, monthly, yearly, etc.)</u>
	Lung function	Annual
	Chest x-ray	Annual
	Blood Pressure/Pulse	Annual
	General Exam	Annual

☐ Mark (X) this box if you attach a continuation sheet.

PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Polyurethane Foam-In-Place

Work area ..... #1

Engineering Controls	Used (Y/N)	Year Installed	Upgraded (Y/N)	Year Upgraded
Ventilation:				
Local exhaust	<u>Y</u>	<u>1977</u>	<u>N</u>	
General dilution	<u>Y</u>	<u>1977</u>	<u>N</u>	
Other (specify)				
<u>Mix head Pressure Control</u>	<u>Y</u>	<u>1977</u>	<u>N</u>	
<u>Shutoff</u>	<u>N</u>			
Vessel emission controls				
Mechanical loading or packaging equipment	<u>N</u>			
Other (specify)				

☐ Mark (X) this box if you attach a continuation sheet.

9.13 Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type Polyurethane Foam in Place

Work area #1

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
<u>NONE</u>	

☐ Mark (X) this box if you attach a continuation sheet.

---

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

---

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Polyurethane Foam - In-Place

Work area ..... #1

<u>Equipment Types</u>	<u>Wear or Use (Y/N)</u>
Respirators	<u>Y</u>
Safety goggles/glasses	<u>Y</u>
Face shields	<u>N</u>
Coveralls	<u>Y</u>
Bib aprons	<u>Y</u>
Chemical-resistant gloves	<u>Y</u>
Other (specify)	
_____	_____
_____	_____

---

☐ Mark (X) this box if you attach a continuation sheet.

---

- 9.15 If workers use respirators when working with the listed substance, specify for each process type, the work areas where the respirators are used, the type of respirators used, the average usage, whether or not the respirators were fit tested, and the type and frequency of the fit tests. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... Polyurethane foam-In-Place

Work Area	Respirator Type	Average Usage <sup>1</sup>	Fit Tested (Y/N)	Type of Fit Test <sup>2</sup>	Frequency of Fit Tests (per year)
#1	Air Purifying	E	Y	QL	1
	(organic vapor cartridge)				

<sup>1</sup>Use the following codes to designate average usage:

A = Daily  
B = Weekly  
C = Monthly  
D = Once a year  
E = Other (specify) Twice Weekly

<sup>2</sup>Use the following codes to designate the type of fit test:

QL = Qualitative  
QT = Quantitative

☐ Mark (X) this box if you attach a continuation sheet.

## PART E WORK PRACTICES

- 9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type ..... Polyurethane Foam *-In-Place*

Work area ..... #1

1. Automatic monitoring      2. Respirator protection  
3. Worker training      4. Restricted area      5. Confined space  
entry procedure for curing oven

- 9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... Polyurethane Foam *-In-Place*

Work area ..... #1

<u>Housekeeping Tasks</u>	<u>Less Than Once Per Day</u>	<u>1-2 Times Per Day</u>	<u>3-4 Times Per Day</u>	<u>More Than 4 Times Per Day</u>
Sweeping	<u>N/A *</u>	<u>          </u>	<u>          </u>	<u>          </u>
Vacuuming	<u>N/A *</u>	<u>          </u>	<u>          </u>	<u>          </u>
Water flushing of floors	<u>N/A *</u>	<u>          </u>	<u>          </u>	<u>          </u>
Other (specify)	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

\* Our experience has indicated less than one leak/spill per year  
See attached spill clean-up procedure

☒ Mark (X) this box if you attach a continuation sheet.



9.21 Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance? NA

Routine exposure

Yes ..... 1

No ..... 2

Emergency exposure

Yes ..... 1

No ..... 2

If yes, where are copies of the plan maintained?

Routine exposure: \_\_\_\_\_

Emergency exposure: \_\_\_\_\_

9.22 Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.

Yes ..... ①

No ..... 2

If yes, where are copies of the plan maintained? TECHNICAL SERVICES OFFICE

Has this plan been coordinated with state or local government response organizations? Circle the appropriate response.

Yes ..... ①

No ..... 2

9.23 Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.

Plant safety specialist ..... NA 1

Insurance carrier ..... 2

OSHA consultant ..... 3

Other (specify) \_\_\_\_\_ 4

☐ Mark (X) this box if you attach a continuation sheet.

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## SECTION 10 ENVIRONMENTAL RELEASE

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### General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and, thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RQ must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

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### PART A GENERAL INFORMATION

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10.01 Where is your facility located? Circle all appropriate responses.

#### CBI

- ☐ Industrial area ..... ①
- Urban area ..... ②
- Residential area ..... 3
- Agricultural area ..... 4
- Rural area ..... 5
- Adjacent to a park or a recreational area ..... ⑥
- Within 1 mile of a navigable waterway ..... 7
- Within 1 mile of a school, university, hospital, or nursing home facility ..... ⑧
- Within 1 mile of a non-navigable waterway ..... ⑨
- Other (specify) \_\_\_\_\_ ..... 10

---

☐ Mark (X) this box if you attach a continuation sheet.

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- 10.02 Specify the exact location of your facility (from central point where process unit is located) in terms of latitude and longitude or Universal Transverse Mercader (UTM) coordinates.

Latitude ..... N 42° 23' 20"

Longitude ..... W 83° 29' 00"

UTM coordinates ..... Zone \_\_\_\_\_, Northing \_\_\_\_\_, Easting \_\_\_\_\_

- 10.03 If you monitor meteorological conditions in the vicinity of your facility, provide the following information. NA

Average annual precipitation ..... \_\_\_\_\_ inches/year

Predominant wind direction ..... \_\_\_\_\_

- 10.04 Indicate the depth to groundwater below your facility. NA

Depth to groundwater ..... \_\_\_\_\_ meters

- 10.05 For each on-site activity listed, indicate (Y/N/NA) all routine releases of the listed substance to the environment. (Refer to the instructions for a definition of CBI, Y, N, and NA.)

☐

On-Site Activity

Environmental Release

	<u>Air</u>	<u>Water</u>	<u>Land</u>
Manufacturing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Importing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Processing	<u>Y</u>	<u>N</u>	<u>N</u>
Otherwise used	<u>NA</u>	<u>NA</u>	<u>NA</u>
Product or residual storage	<u>Y</u>	<u>N</u>	<u>N</u>
Disposal	<u>NA</u>	<u>NA</u>	<u>NA</u>
Transport	<u>NA</u>	<u>NA</u>	<u>NA</u>

☐ Mark (X) this box if you attach a continuation sheet.

10.06 Provide the following information for the listed substance and specify the level of precision for each item. (Refer to the instructions for further explanation and an example.)

CBI

☐

Quantity discharged to the air ..... NA \* kg/yr ± \* %  
Quantity discharged in wastewaters ..... none kg/yr ± \_\_\_\_ %  
Quantity managed as other waste in on-site  
treatment, storage, or disposal units ..... none kg/yr ± \_\_\_\_ %  
Quantity managed as other waste in off-site  
treatment, storage, or disposal units ..... none kg/yr ± \_\_\_\_ %

\* Monitoring in work area indicates TDI  
levels below detection limits of equipment,  
(Detection limit = 1 ppb).

☐ Mark (X) this box if you attach a continuation sheet.

10.08 Describe the control technologies used to minimize release of the listed substance for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... POLYURETHANE FOAM-IN-Place

<u>Stream ID Code</u>	<u>Control Technology</u>	<u>Percent Efficiency</u>
<u>N/A</u>	<u>NONE</u>	

☐ Mark (X) this box if you attach a continuation sheet.

PART B RELEASE TO AIR

- 10.09 Point Source Emissions -- Identify each emission point source containing the listed substance in terms of a Stream ID Code as identified in your process block or residual treatment block flow diagram(s), and provide a description of each point source. Do not include raw material and product storage vents, or fugitive emission sources (e.g., equipment leaks). Photocopy this question and complete it separately for each process type.

CBI

☐

Process type Polyurethane Foam-in-Place

Point Source  
ID Code

Description of Emission Point Source

NA

NA.

☐ Mark (X) this box if you attach a continuation sheet.



CBI

[ ]

[illegible]

<sup>3</sup>Use the following codes to designate vent type:

**V = Vertical**

115



10.12 If the listed substance is emitted in particulate form, indicate the particle size distribution for each Point Source ID Code identified in question 10.09.  
Photocopy this question and complete it separately for each emission point source.

CBI

☐

Point source ID code ..... NA

Size Range (microns)

Mass Fraction (% ± % precision)

< 1  
≥ 1 to < 10  
≥ 10 to < 30  
≥ 30 to < 50  
≥ 50 to < 100  
≥ 100 to < 500  
≥ 500

NA  
↓  
↓  
↓  
↓  
↓  
↓

Total = 100%

☐ Mark (X) this box if you attach a continuation sheet.

PART C FUGITIVE EMISSIONS

10.13 Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... POLYURETHANE FOAM-In-Place  
 Percentage of time per year that the listed substance is exposed to this process type ..... 100 %

Equipment Type	Number of Components in Service by Weight Percent of Listed Substance in Process Stream					Greater than 99%
	Less than 5%	5-10%	11-25%	26-75%	76-99%	
Pump seals <sup>1</sup>						
Packed	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Mechanical	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>2</u>
Double mechanical <sup>2</sup>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>NA</u>
Compressor seals <sup>1</sup>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>NA</u>
Flanges	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>NA</u>
Valves	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>
Gas <sup>3</sup>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>NA</u>
Liquid	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>NA</u>
Pressure relief devices <sup>4</sup> (Gas or vapor only)	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>NA</u>
Sample connections	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>
Gas	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>NA</u>
Liquid	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>NA</u>
Open-ended lines <sup>5</sup> (e.g., purge, vent)	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>
Gas	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>NA</u>
Liquid	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>NA</u>

<sup>1</sup>List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

☐ Mark (X) this box if you attach a continuation sheet.

10.13 (continued)

<sup>2</sup>If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively

<sup>3</sup>Conditions existing in the valve during normal operation

<sup>4</sup>Report all pressure relief devices in service, including those equipped with control devices

<sup>5</sup>Lines closed during normal operation that would be used during maintenance operations

10.14 Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.

CBI

☐

a. Number of Pressure Relief Devices	b. Percent Chemical in Vessel <sup>1</sup>	c. Control Device	d. Estimated Control Efficiency <sup>2</sup>
<u>ONE</u>	<u>100%</u>	<u>NONE</u>	<u>—</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

<sup>1</sup>Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

<sup>2</sup>The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

☐ Mark (X) this box if you attach a continuation sheet.

10.15 Equipment Leak Detection -- If a formal leak detection and repair program is in place, complete the following table regarding those leak detection and repair procedures. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... POLYURETHANE FOAM

In-Place

Equipment Type	Leak Detection Concentration (ppm or mg/m <sup>3</sup> ) Measured at <u>APPROX 84</u> Inches From Source	Detection Device	Frequency of Leak Detection (per year)	Repairs Initiated (days after detection)	Repairs Completed (days after initiated)
Pump seals					
Packed	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Mechanical	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Double mechanical	<u>UK</u>	<u>FPM</u>	<u>1-2</u>	<u>UK</u>	<u>UK</u>
Compressor seals	<u>NA</u>	<u>FPM</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Flanges		<u>FPM</u>			
Valves					
Gas		<u>FPM</u>			
Liquid		<u>FPM</u>			
Pressure relief devices (gas or vapor only)		<u>FPM</u>			
Sample connections					
Gas		<u>NA</u>			
Liquid		<u>NA</u>			
Open-ended lines					
Gas		<u>NA</u>			
Liquid	<u>↓</u>	<u>NA</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>

<sup>1</sup>Use the following codes to designate detection device:

POVA = Portable organic vapor analyzer

FPM = Fixed point monitoring

0 = Other (specify) \_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

10.16 Raw Material, Intermediate and Product Storage Emissions - - Complete the following table by providing the information on each liquid raw material, intermediate, and product storage vessel containing the listed substance as identified in your process block or residual treatment block flow diagram(s).

☐

Vessel Type <sup>1</sup>	Floating Roof <sup>2</sup> Seals <sup>2</sup>	Composition of Stored Materials <sup>3</sup>	Throughput (liters per year)	Vessel Filling Rate (gpm)	Vessel Filling Duration (min)	Vessel Inner Diameter (m)	Vessel Height (m)	Vessel Volume (l)	Operating Vessel Emission Controls <sup>4</sup>	Design Flow Rate <sup>5</sup>	Vent Diameter (cm)	Control Efficiency (%)	Basis for Estimate <sup>6</sup>
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

<sup>1</sup>Use the following codes to designate vessel type:

F = Fixed roof  
 CIF = Contact internal floating roof  
 NCIF = Noncontact internal floating roof  
 EFR = External floating roof  
 P = Pressure vessel (indicate pressure rating)  
 H = Horizontal  
 U = Underground

<sup>2</sup>Use the following codes to designate floating roof seals:

MS1 = Mechanical shoe, primary  
 MS2 = Shoe-mounted secondary  
 MS2R = Rim-mounted, secondary  
 LM1 = Liquid-mounted resilient filled seal, primary  
 LM2 = Rim-mounted shield  
 LMW = Weather shield  
 VM1 = Vapor mounted resilient filled seal, primary  
 VM2 = Rim-mounted secondary  
 VMW = Weather shield

<sup>3</sup>Indicate weight percent of the listed substance. Include the total volatile organic content in parenthesis

<sup>4</sup>Other than floating roofs

<sup>5</sup>Gas/vapor flow rate the emission control device was designed to handle (specify flow rate units)

<sup>6</sup>Use the following codes to designate basis for estimate of control efficiency:

C = Calculations  
 S = Sampling

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**PART E NON-ROUTINE RELEASES**

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10.23 Indicate the date and time when the release occurred and when the release ceased or was stopped. If there were more than six releases, attach a continuation sheet and list all releases.

<u>Release</u>	<u>Date Started</u>	<u>Time (am/pm)</u>	<u>Date Stopped</u>	<u>Time (am/pm)</u>
<u>1</u>	<u>May 11, 1988</u>	<u>11:45 am</u>	<u>May 11</u>	<u>2:00 pm</u>
<u>2</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>3</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>4</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>5</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>6</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>

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10.24 Specify the weather conditions at the time of each release.

<u>Release</u>	<u>Wind Speed (km/hr)</u>	<u>Wind Direction</u>	<u>Humidity (%)</u>	<u>Temperature (°C)</u>	<u>Precipitation (Y/N)</u>
<u>1</u>	<u>UK</u>	<u>UK</u>	<u>UK</u>	<u>UK</u>	<u>N</u>
<u>2</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>3</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>4</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>5</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>6</u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>

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☐ Mark (X) this box if you attach a continuation sheet.

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## APPENDIX I: List of Continuation Sheets

Attach continuation sheets for sections of this form and optional information after this page. In column 1, clearly identify the continuation sheet by listing the question number to which it relates. In column 2, enter the inclusive page numbers of the continuation sheet for each question number.

[illegible]

☐ Mark (X) this box if you attach a continuation sheet.

Tox Status : C2

Print Date : 01/07/89

Product: ISOFOAM F-0538-A

Last Reviewed : 09/02/88

Supplier: WITCO CORP (UCCS: W830F)

This material has not been identified against a material Specification.

## ===== CHEMICAL AND PHYSICAL PROPERTIES =====

Material type        LIQUID  
Color                YELLOW  
Specific Gravity     1.150  
Boiling Point        +128 C  
Flash Point          +148 C (Cleveland Open Cup)  
pH                   Not Applicable  
viscosity            120 CPS (25 C)

## ===== HAZARDOUS INGREDIENTS =====

Percent Range	Exposure Limits - TWA ACGIH/OSHA (where est.)	CAS number	Chemical Name
>30	None Established	68919-90-4	ISOCYANATE, C16-C18, ALKYL
>30	5/20 Ford= 2 ppb +I+N	26471-62-5 +	TOLUENE DIISOCYANATE
>10-30	None Established	9016-87-9	POLYMETHYLENE POLYPHENYLENE ISOCYANATE

## Exposure Limit Abbreviations

## Carcinogen Listings

TWA=Time Weighted Average    C=Ceiling    I=IARC    N=NTP  
S=Short Term Exposure        Sk=Skin  
Sol=Soluble Compounds        Fu=Fumes  
Insol=Insoluble Compounds    Du=Dust  
+ For more information on 26471-62-5, see CFS for 584-84-9.

## ===== SIGNAL WORD =====

WARNING  
DANGER -- POISON

## ===== HAZARDS =====

This product is harmful by inhalation.  
This product is irritating to the eyes, respiratory system and skin.  
This product may cause sensitization by inhalation and skin contact.  
This material contains an ingredient which is a cancer hazard based on tests with laboratory animals. Overexposure may create a cancer risk.

## ===== SAFE HANDLING AND STORAGE =====

Do not breathe gas/fumes/vapor/spray.  
Use this product with adequate ventilation.  
Do not get this material in your eyes, on your skin, or on your clothing.



## ===== PROTECTIVE MEASURES AND TREATMENTS =====

Use impervious gloves.

Wear chemical goggles.

If exhaust ventilation is needed, and not available, contact Corporate Industrial Hygiene for specific details.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Remove contaminated clothing and wash before reuse.

If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air.

For skin contact, wash immediately with soap and water.

## ===== TRANSPORTATION =====

Shipping name: TOLUENE DIISOCYANATE UN: 2078

Hazard Class: Poison B

Hazard Label: Poison

The chemical name(s) appearing below under "NAME" must appear as part of shipping name IF the amount being shipped in each container exceeds the quantity shown under "RQ" below. The letters "RQ" must also appear as part of the shipping name, in the form:

shipping name, chemical name, RQ.

For U.S. shipments from Ford Facilities, consult the "Ford Hazardous Material Transportation Control Program" Manual, otherwise consult 49CFR172.

-----CAS-- RQ(lbs) -NAME-----

26471-62-5 204 TOLUENE DIISOCYANATE

=====

The chemical identification and properties for this material were provided by the manufacturer. Health and safety information has been evaluated by:

Environmental & Occupational Toxicology, Occupational Health & Safety,  
Ford Motor Company  
900 Parklane Towers West, Dearborn, MI 48126

For emergency call: (313) 337-3182 -or- (313) 323-0045 (for 24 hour service)

# ISOFOAM<sup>®</sup> POLYISOCYANATES

## HANDLING AND SAFETY INFORMATION

*Misuse of this material can be hazardous!  
Read this literature — safety is your responsibility.*

### PRIMARY PRECAUTIONS:

- AVOID BREATHING POLYISOCYANATE VAPORS
- AVOID SKIN & EYE CONTACT WITH POLYISOCYANATES
- AVOID EATING POLYISOCYANATES
- AVOID FLAME SOURCES AROUND POLYISOCYANATES
- PROTECT POLYISOCYANATES FROM WATER, MOISTURE, AND OTHER REACTANTS

### VAPORS, MISTS AND DUST

Polyisocyanates will irritate the nose, throat, lungs and eyes. Symptoms may include watering of the eyes, dryness of the throat, tightness of the chest, headaches, nausea, coughing, and shortness of breath. Some persons can become sensitized to polyisocyanates and suffer asthma-like attacks and respiratory distress when exposed to low concentrations. Persons with known respiratory allergies should avoid exposure to polyisocyanates.

Proper handling, mechanical ventilation and air supplied respirators can be used to avoid exposure to polyisocyanate vapors, mists and dust.

### LIQUIDS

Liquid polyisocyanates can cause severe eye irritation, inflammation, and/or damage to sensitive eye tissue.

Skin contact can cause reddening, irritation, dermatitis, and, in some individuals, sensitization.

Ingestion can cause irritation and damage to mouth, throat, and stomach tissue.

Proper handling, wearing chemical goggles or a face shield, rubber aprons, gloves, and coveralls should be used to avoid contact with liquid polyisocyanates.

### REACTIVITY

Polyisocyanates are highly reactive chemicals and should be handled and stored in a way to avoid

exposure to many common substances including water and moisture.

### FIRST AID

**Inhalation** — remove persons with exposure symptoms from contaminated area immediately. If breathing is labored or difficult, trained personnel should administer oxygen.

**Skin contact** — wipe off excess. Flush with water. Wipe with rubbing alcohol and wash with soap and water. Wash clothing before reuse.

**Eye contact** — flush immediately with clean water for 15 minutes. Obtain medical attention.

**Ingestion** — drink milk and contact a physician. Vomiting can induce a risk of inhaling polyisocyanate liquids or vapors.

### SPILLS

Protect personnel from polyisocyanate vapors and liquids. Dike the spill and collect by appropriate methods for the quantity.

**NOTE:** Do not seal containers of collected polyisocyanates if moisture contamination was possible. Carbon dioxide generation and ruptured containers could result.

Neutralize the residue with a dilute aqueous ammonia detergent solution. (90 parts water, 8 parts Ammonium Hydroxide, 2 parts liquid detergent).

### DISPOSAL

Waste polyisocyanates can be disposed of through licensed disposal agencies or by conversion to solid polyurethanes with proper care. In all cases, Local, State and Federal regulations should be followed.

Empty drums and pails should be decontaminated and punctured to prevent reuse.

### FIRE HAZARDS

Although the flash points are high enough that ISOFOAM polyisocyanates are not considered serious fire risks, these materials will burn if subjected to sufficient heat in the presence of oxygen. Fires

may be extinguished with carbon dioxide, dry chemical, or an inert gas. Application of large quantities of water spray is recommended for spill fires. Fire fighters should be equipped with NIOSH approved self-contained breathing apparatus.

### STORAGE

Polyisocyanate materials are ideally stored between 60°F and 85°F, away from direct sunlight, and in sealed containers or adequately designed bulk storage tanks. Do not leave containers open.

### APPLICATION OR USE PRECAUTIONS

The polyurethane foams produced from polyisocyanates present significant fire risks in certain applications. Once ignited, these foams can burn rapidly and produce intense heat, dense smoke and irritating or toxic gases. All interior building insulation applications of polyurethane foam should be protected from accidental ignition with an appropriate barrier. Wall and ceiling applications should not be considered unless a fire resistive thermal barrier is included having a 15 minute finish rating.

Welding, cutting and other hot work should not be done in areas where polyurethane foam is not protected.

Application equipment must be properly maintained and calibrated to avoid producing off-ratio foam.

Large quantities of foam should not be accumulated in a manner that could retain exothermic heat and possibly result in autoignition. This includes calibration or test shots and scrap foam.

Do not smoke or use naked lights, open flames, space heaters, or other ignition sources near pouring, frothing or spraying operations.

Persons who will work with polyisocyanates should undergo screening physical examinations before initially starting such work in order to eliminate hypersensitive individuals and those who have a history of chronic respiratory illness or allergic response.

Periodically, workers should be rechecked for systemic effects of polyisocyanate exposure. Workers developing asthmatic reaction or other sensitization should be removed from further exposure.

### SPECIAL EMPHASIS FOR SPRAY APPLICATIONS

Workers engaged in spraying polyisocyanates must wear positive pressure air-supplied face masks or hoods.

Inspect the application area from the potential to expose other persons or for overspray to drift onto buildings, vehicles or other property. When spraying building exteriors, persons entering or exiting the building as well as those inside could be exposed to polyisocyanates due to wind conditions, open windows or air intakes. Do not begin application work until these potential problems have been corrected.

When spraying building interiors, the foam must not be left as an exposed interior finish on walls or ceilings or in any horizontal or vertical flue-like configuration.

Obtain and read the product data bulletin and material safety data sheet prior to using this material.

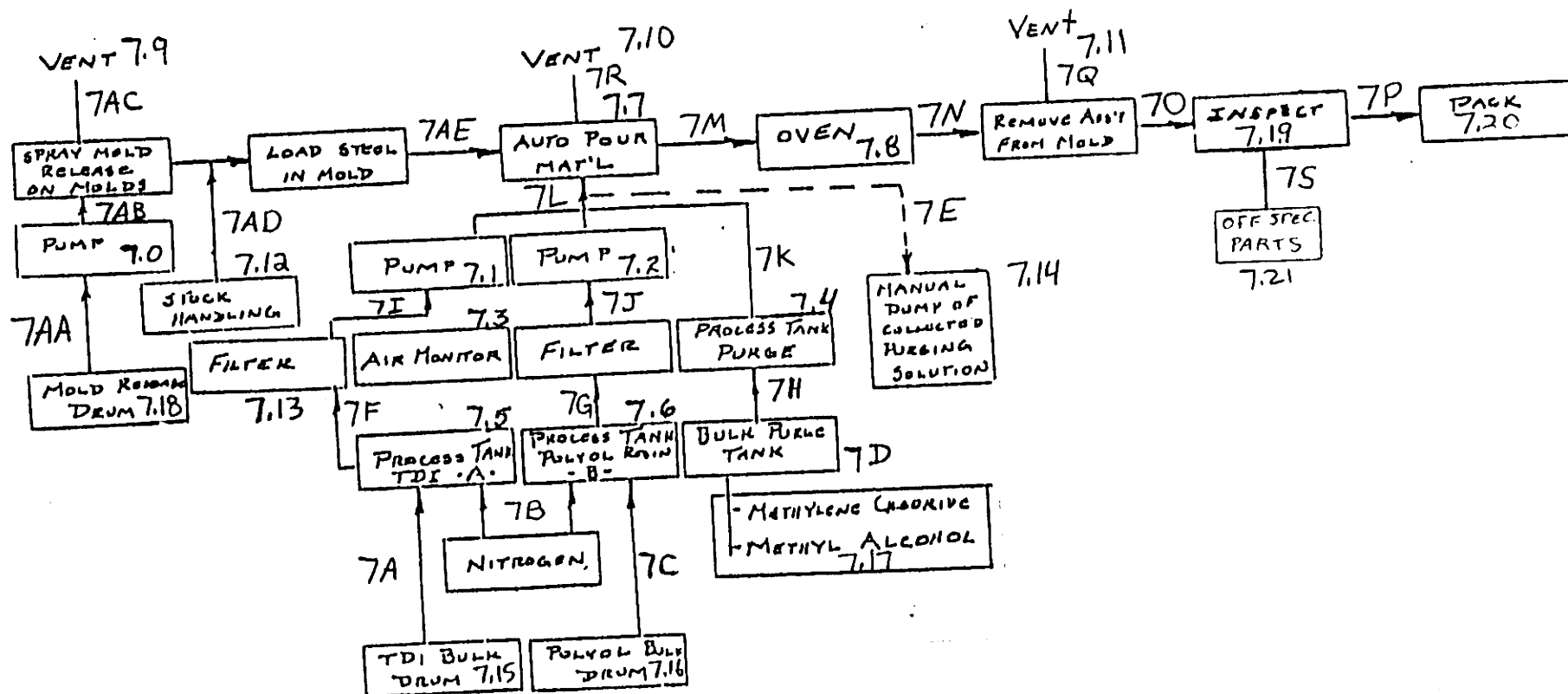
If you need additional information contact your IPI representative or call: 301-392-4800.

In case of chemical emergency after hours contact Chemtrec at 800-424-9300.

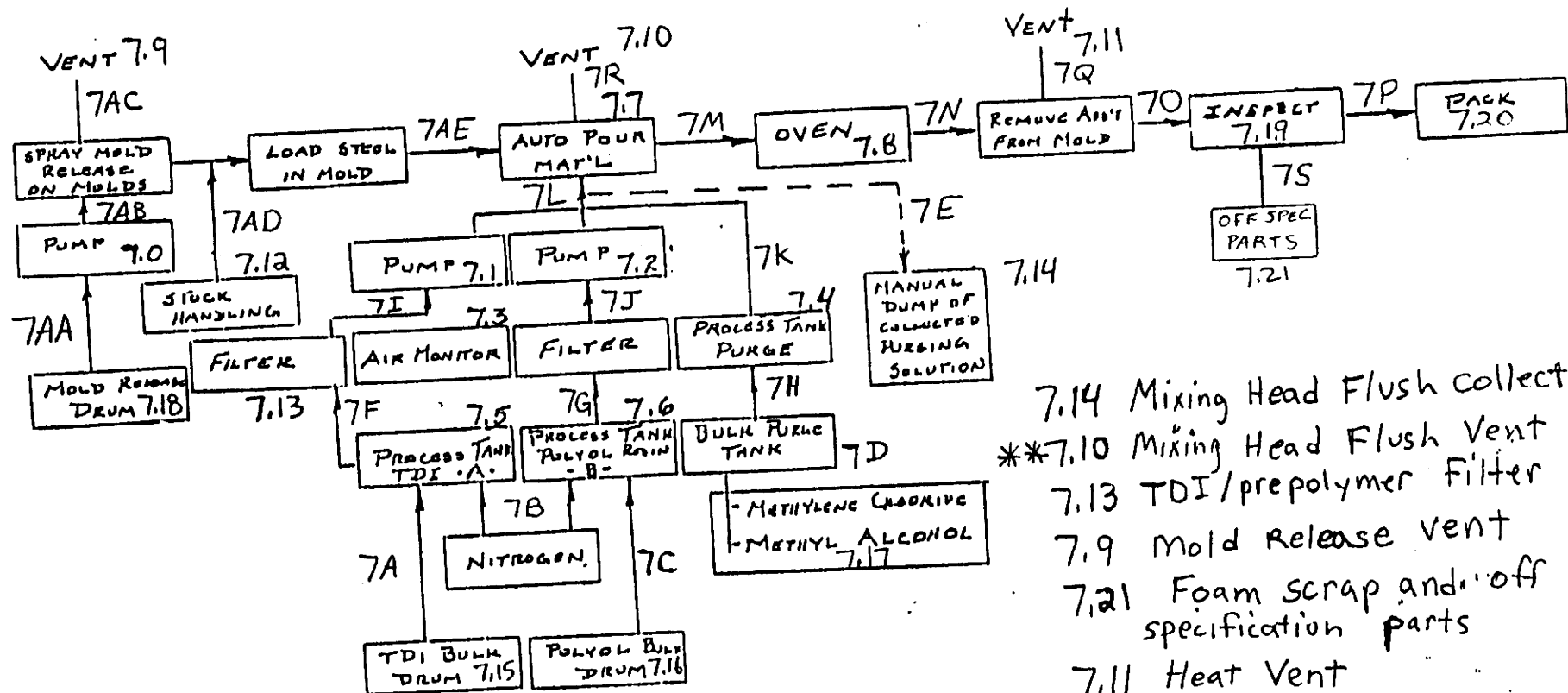
IPI  
505 Blue Ball Rd.  
P.O. Box 70  
Elkton, MD 21921  
301-392-4800

**IMPORTANT  
SAFETY AND HANDLING INFORMATION  
READ CAREFULLY BEFORE  
WORKING WITH THIS MATERIAL**

Ford Sheldon Road Plant  
 PROCESS FLOW DIAGRAM  
 Section 7.01  
 PROCESS TYPE: POLYURETHANE FOAM-IN-PLACE



Ford Sheldon Road Plant  
 PROCESS FLOW DIAGRAM  
 Section 7.03  
 PROCESS TYPE: POLYURETHANE FOAM-IN-PLACE

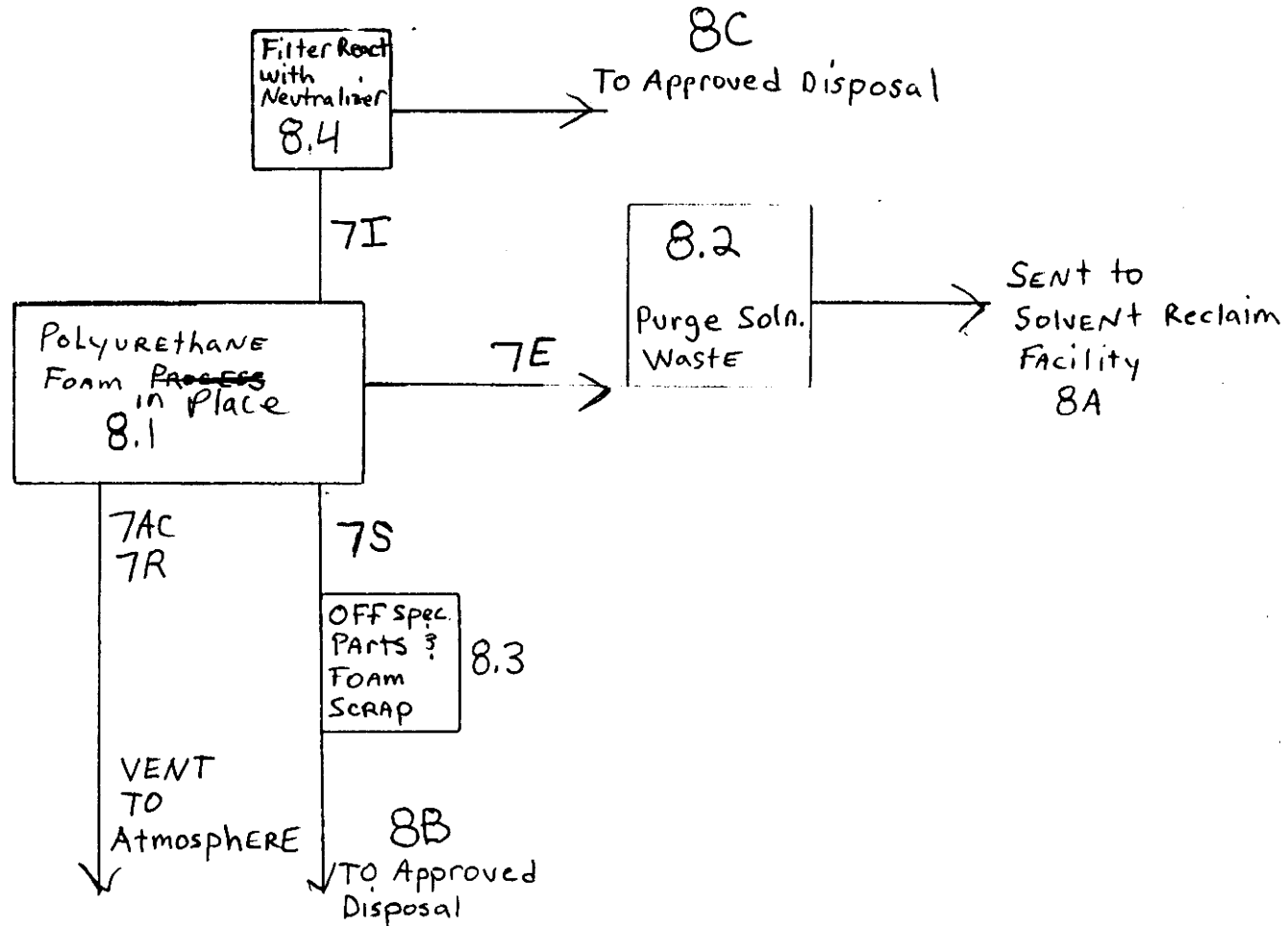


\*\* Testing with MDA equipment indicates no emissions. The detection sensitivity is 1PPB.

SEC. 8.01

# RESIDUAL TREATMENT BLOCK - Ford Sheldon Road Plant Flow Diagram.

PROCESS TYPE : POLYURETHANE FOAM-IN-PLACE



8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

a.            b.            c.            d.            e.            f.            g.

[illegible]

☐ Mark (X) this box if you attach a continuation sheet.

**CBI**

[illegible]

<sup>2</sup>Use the codes provided in Exhibit 8-2 to designate the management methods

141



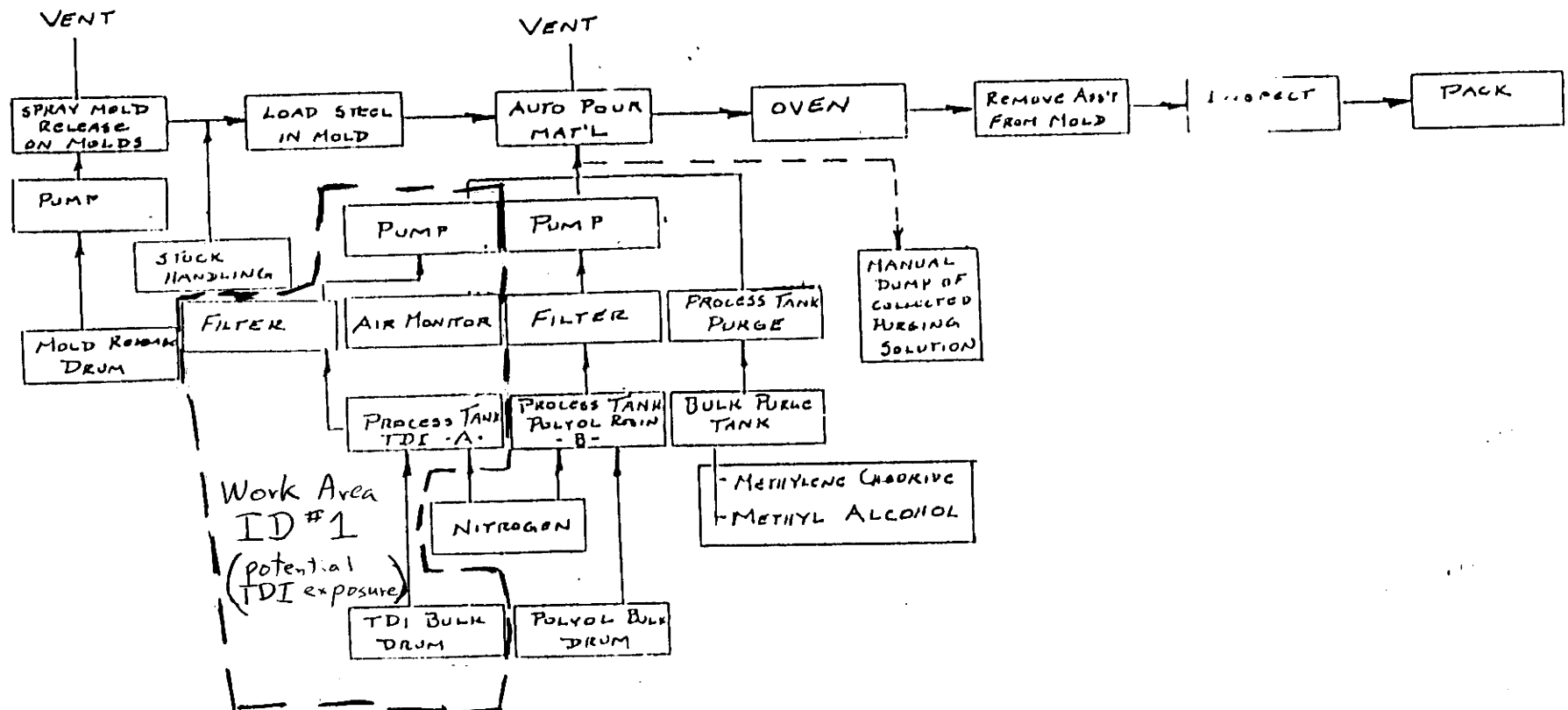
9.01

- a/      Employment application has limited information regarding previous employment
- b/      For most, but not all, employees
- c/      This facility opened in 1967 and records have been maintained since then. Some employees transferred to this facility from other Company locations and their records go back to their individual date of application/hire.
- d/      Forty years after termination of employment
- e/      Until employee's 75th birthday or 10 years after termination of employment

# PROCESS FLOW DIAGRAM

SECTION 9.04

PROCESS TYPE: POLYURETHANE FOAM-IN-Place



P. Heister 8.17  
INT. MOLD DEP

9.06

a/ Potential exposure is indicated. Typical exposure is negligible

9.08

- a/ Full time monitoring and analyzing device manufactured by M.D.A. Scientific. Set-up person trained to calibrate and operate this device.
- b/ Annual testing by plant medical staff.

ISOCYANATE SPILL CLEAN-UP PROCEDUREProduction Supervision Responsibility

- . The immediate area where the spill has occurred will be evacuated of all personnel not assigned to the spill clean-up or maintenance crews.
- . Production supervision will immediately notify the Maintenance Department for clean-up assistance.
- . Production Supervisor will assign hi-lo driver to immediately remove punctured drum to outside area.
- . A call for clean-up assistance will be treated with top priority by the Maintenance Department.
- . The Production Supervisor will assure that all exhausts, air make-up units, and fans are operating.
- . All outside doors adjacent to the spill area will be opened at the Production Supervisor's direction.
- . The Safety Engineer will be called for assistance in measuring vapors in the area.

Maintenance Supervision Responsibility

- . Maintenance personnel will correct the spill cause.
- . Spill cleaners will be equipped with the Scot Air-Pac (available in cabinet at north end of line.) Rubber gloves, rubber aprons, and rubber boots will be available at the General Stores Crib.
- . Spill cleaners will spread absorbent neutralizer (located at both ends of line and both sides of pour station) over the spilled material. Neutralizer will be contained in 5-gallon containers painted international emergency orange.
- . The contaminated absorbent shall be shoveled into an open-top drum lined with polyethylene bags, and removed from the building and allowed to stand for 24 hours.
- . The disposal drum will be painted red and marked "For TDI Spill."
- . The floor is to be washed, using a detergent and water solution, immediately following the removal of isocyanate.

General Information

- . When the TDI vapor concentration has dropped below 0.02 ppm, production personnel may enter area and resume production.
- . Contaminated clothing, shoes, boots, rubber gloves, etc., are to be removed and placed in the container provided, marked "Contaminated Clothing."

EYE OR SKIN CONTACT PROCEDURE

An eye wash/shower must be used if isocyanate has entered an employee's eyes or if there has been skin contact.

The area of contact must be flushed immediately with large amounts of water.

Following the emergency treatment, the employee is to be immediately assisted to Plant Medical.

208-C



Climate Control Division  
Sheldon Road Plant  
14425 Sheldon Road  
Plymouth, Michigan 48170-2498

R. Gamble

Document Processing Center  
Office of Toxic Substances, TS-790  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington D.C. 20460



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P 743 854 291

MAIL